8-11-2009

Ex. 280-US-456

Unknown

Stream: Whiskey Creek
Site 649
Date: 4/22/2009
Habitat: Glide **Flow:** High

(1) Level Loop Survey (BM & HP)

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	1.76	101.76		100.00
TR1 HP			4.24	97.52
TR2 HP			4.78	96.98
TR3 HP			4.66	97.10
TR4 HP			4.04	97.72
TR5 HP			4.51	97.25
TR6 HP			4.79	96.97
TP				
TR6 HP	5.55	102.52		96.97
TR5 HP			5.27	97.25
TR4 HP			4.81	97.71
TR3 HP			5.42	97.10
TR2 HP			5.55	96.97
TR1 HP			5.00	97.52
BM			2.52	100.00

Comment:

(2) Water Surface Elevation (WSE) Survey

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	101.81	6.07	0.00	95.74	95.74	
1-M					0.00			8.8
1-R	0			6.08	0.00	95.73		
2-L	81	91	101.81	6.07	0.00	95.74	95.75	
2-M								8.5
2-R	100.7			6.06	0.00	95.75		
3-L	171	206	101.81	6.04	0.00	95.77	95.77	
3-M					0.00			9.3
3-R	241.7			6.05	0.00	95.76		
4-L	236.7	262	101.81	6.01	0.00	95.80	95.80	
4-M					0.00			7.2
4-R	286.7			6.02	0.00	95.79		
5-L	332.7	346	102.23	6.39	0.00	95.84	95.84	
5-M					0.00			7.6
5-R	359.7			6.40	0.00	95.83		
6-L	405.6	430	102.23	6.14	0.00	96.09	96.09	
6-M					0.00			7.5
6-R	454.7			6.15	0.00	96.08		
							Ave Q=	8.2

Note: slope calculated from WSE's below

		HI	FS	Rod	WSE
d/s TR1	-90	101.92	6.21	0.00	95.71
u/s TR6	534	102.23	5.91	0.00	96.32

WSE slope = 0.098%

(3) Meter and propeller ID for Velocity Correction

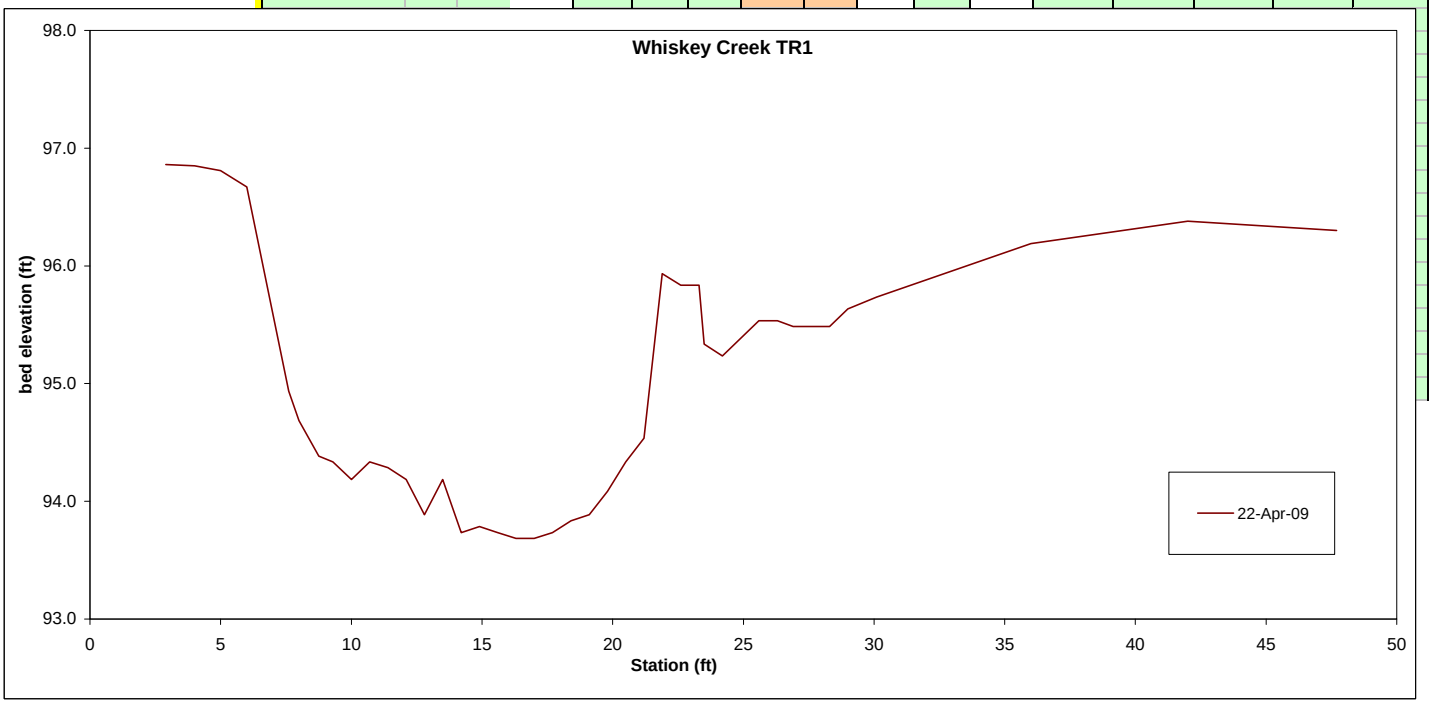
Meter ID: 3602
Propeller ID: 5B
Calibration: 125

Stream: Whiskey Creek
Site: Whiskey Creek
Transect: 1
Habitat: Glide

Survey Date	HI (ft)	Q (cfs)
4/22/2009	101.92	8.8
1/0/1900	0.00	
1/0/1900	0.00	

22-Apr-09

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	Angle (deg)	q (cfs)	Substrate Composition Dom	Sub-d	Cover	Percent Dom	Sub Code
LWP	2.9	5.06	96.86									VEG				
	4.0	5.07	96.85									VEG				
	5.0	5.11	96.81									VEG				
	6.0	5.25	96.67									VEG				
LWE; UCB = 0.2'	7.6		94.94	0.80	0.00		0.00		0.00		0.00	SI		UCB	100	
	8.0		94.69	1.05	0.17		0.24		0.24		0.14	SI			100	
	8.8		94.39	1.35	0.38		0.43		0.43		0.38	SI			100	
	9.3		94.34	1.40	0.38		0.43		0.43		0.38	SI			100	
	10.0		94.19	1.55	0.37		0.43		0.43		0.46	SI			100	
	10.7		94.34	1.40	0.30		0.37		0.37		0.36	SI			100	
	11.4		94.29	1.45	0.31		0.38		0.38		0.38	SI			100	
	12.1		94.19	1.55	0.36		0.42		0.42		0.45	SI	AQ VEG	AQ VEG	70	
	12.8		93.89	1.85	0.35		0.41		0.41		0.53	SI	AQ VEG	AQ VEG	60	
	13.5		94.19	1.55	0.44		0.49		0.49		0.54	AQ VEG	SI	AQ VEG	70	
	14.2		93.74	2.00	0.41		0.46		0.46		0.65	AQ VEG	SI	AQ VEG	60	
	14.9		93.79	1.95	0.44		0.49		0.49		0.67	SI	AQ VEG	AQ VEG	60	
	15.6		93.74	2.00	0.33		0.39		0.39		0.55	SI	AQ VEG	AQ VEG	70	
	16.3		93.69	2.05	0.25		0.32		0.32		0.46	SI	AQ VEG	AQ VEG	80	
	17.0		93.69	2.05	0.40		0.45		0.45		0.65	SI	AQ VEG	AQ VEG	90	
	17.7		93.74	2.00	0.34		0.40		0.40		0.56	SI			100	
	18.4		93.84	1.90	0.30		0.37		0.37		0.49	SI			100	
	19.1		93.89	1.85	0.30		0.37		0.37		0.47	SI			100	
	19.8		94.09	1.65	0.22		0.29		0.29		0.33	SI			100	
	20.5		94.34	1.40	0.16		0.23		0.23		0.22	SI	AQ VEG	AQ VEG	80	
edge of veg	21.2		94.54	1.20	0.13		0.19		0.19		0.16	SI	AQ VEG	AQ VEG	60	
	21.9		95.94	-0.20	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	80	
	22.6		95.84	-0.10	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	80	
	23.3		95.84	-0.10	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	80	
	23.5		95.34	0.40	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	80	
	24.2		95.24	0.50	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	80	
	24.9		95.39	0.35	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	80	
	25.6		95.54	0.20	0.00		0.00		0.00		0.00	SI	AQ VEG	AQ VEG	60	
	26.3		95.54	0.20	0.00		0.00		0.00		0.00	SI	AQ VEG	AQ VEG	60	
	26.9		95.49	0.25	0.00		0.00		0.00		0.00	SI	AQ VEG	AQ VEG	60	
	27.6		95.49	0.25	0.00		0.00		0.00		0.00	SI	AQ VEG	AQ VEG	60	
	28.3		95.49	0.25	0.00		0.00		0.00		0.00	SI	AQ VEG	AQ VEG	60	
	29.0		95.64	0.10	0.00		0.00		0.00		0.00	SI	AQ VEG	AQ VEG	60	
RWE	30.1		95.74	0.00	0.00		0.00		0.00		0.00	SI	AQ VEG	AQ VEG	60	
	36.0	5.73	96.19									VEG				
	42.0	5.54	96.38									VEG				
RWP	47.7	5.62	96.30									VEG				

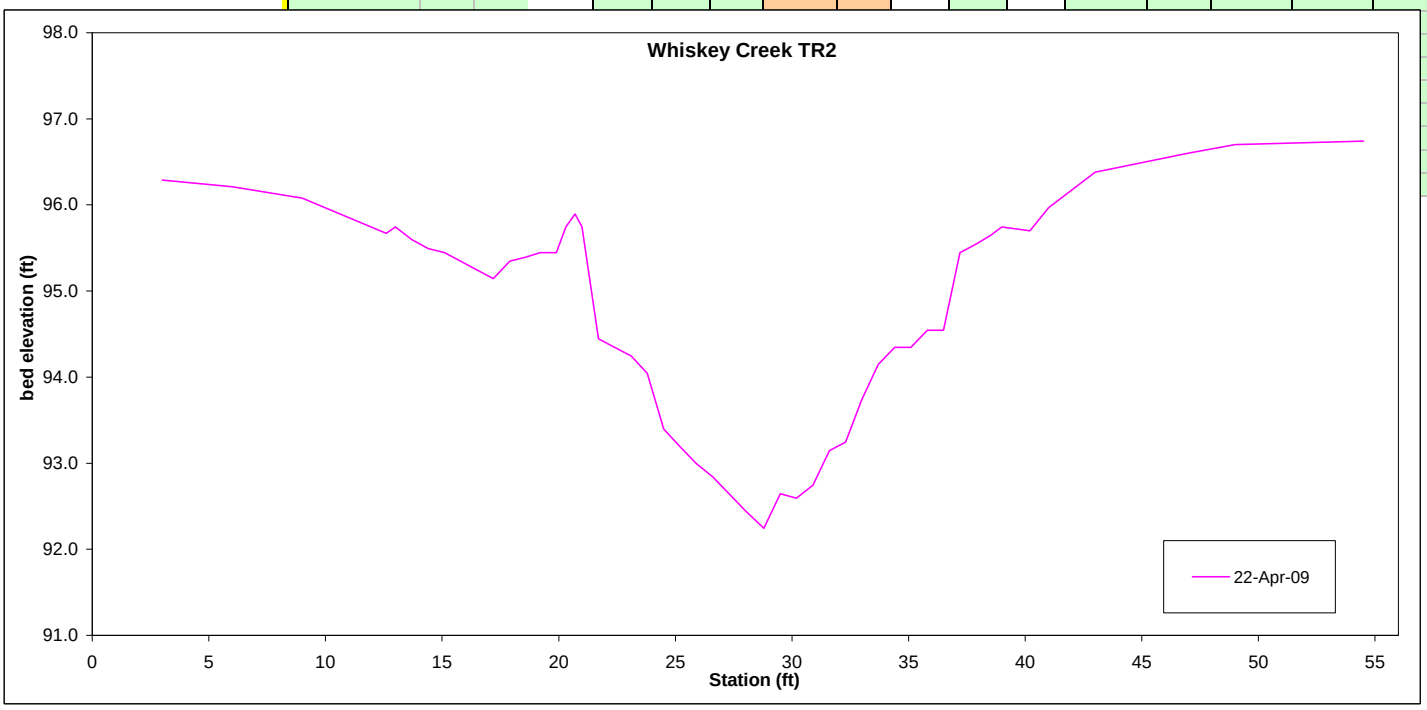


Stream: Whiskey Creek
Site: Whiskey Creek
Transect: 2
Habitat: Glide

Survey Date	HI (ft)	Q (cfs)
4/22/2009	101.92	8.5
1/0/1900	0.00	
1/0/1900	0.00	

22-Apr-09

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	Vel (ft/s) $V_{0.8}$	Vel (ft/s) $NV_{0.2/0.6}$	Vel (ft/s) $NV_{0.8}$	Vel (ft/s) Ave	Angle (deg)	q (cfs)	Substrate Composition Dom	Substrate Composition Sub-d	Substrate Composition Cover	Percent Dom	Sub Code
LWP	3.0	5.63	96.29									VEG				
	6.0	5.71	96.21									VEG				
	9.0	5.84	96.08									VEG				
	12.6	6.25	95.67									VEG	SI		80	
LWE	13.0		95.75	0.00	0.00		0.00		0.00		0.00	AQ VEG	SI		80	
	13.7		95.60	0.15	0.00		0.00		0.00		0.00	AQ VEG	SI		80	
	14.4		95.50	0.25	0.00		0.00		0.00		0.00	AQ VEG	SI		80	
	15.1		95.45	0.30	0.00		0.00		0.00		0.00	AQ VEG	SI		80	
	15.8		95.35	0.40	0.00		0.00		0.00		0.00	AQ VEG	SI		80	
	16.5		95.25	0.50	0.00		0.00		0.00		0.00	AQ VEG	SI		80	
	17.2		95.15	0.60	0.00		0.00		0.00		0.00	AQ VEG	SI		80	
	17.9		95.35	0.40	0.00		0.00		0.00		0.00	AQ VEG	SI		80	
	18.6		95.40	0.35	0.00		0.00		0.00		0.00	AQ VEG	SI		80	
	19.2		95.45	0.30	0.00		0.00		0.00		0.00	AQ VEG	SI		80	
	19.9		95.45	0.30	0.00		0.00		0.00		0.00	AQ VEG	SI		80	
	20.3		95.75	0.00	0.00		0.00		0.00		0.00	AQ VEG	SI		80	
	20.7		95.90	-0.15	0.00		0.00		0.00		0.00	AQ VEG	SI		80	
	21.0		95.75	0.00	0.00		0.00		0.00		0.00	AQ VEG	SI		80	
	21.7		94.45	1.30	0.00		0.00		0.00		0.00	SI			100	
	22.4		94.35	1.40	0.05		0.08		0.08		0.08	SI			100	
	23.1		94.25	1.50	0.05		0.08		0.08		0.08	SI			100	
	23.8		94.05	1.70	0.05		0.08		0.08		0.09	SI			100	
	24.5		93.40	2.35	0.05		0.08		0.08		0.13	SI			100	
	25.2		93.20	2.55	0.05	0.00	0.08	0.00	0.04		0.07	SI			100	
	25.9		93.00	2.75	0.09	0.02	0.14	0.02	0.08		0.16	SI			100	
	26.6		92.85	2.90	0.07	0.05	0.11	0.05	0.08		0.16	SI			100	
	27.3		92.65	3.10	0.11	0.05	0.17	0.05	0.11		0.24	SI			100	
	28.0		92.45	3.30	0.31	0.36	0.38	0.36	0.37		0.91	SI			100	
	28.8		92.25	3.50	0.51	0.40	0.56	0.40	0.48		1.26	SI			100	
	29.5		92.65	3.10	0.57	0.26	0.62	0.26	0.44		0.95	SI			100	
	30.2		92.60	3.15	0.58	0.36	0.63	0.36	0.50		1.09	SI			100	
	30.9		92.75	3.00	0.17	0.40	0.24	0.40	0.32		0.67	SI			100	
	31.6		93.15	2.60	0.57	0.18	0.62	0.18	0.40		0.73	SI			100	
	32.3		93.25	2.50	0.57	0.29	0.62	0.29	0.46		0.80	SI			100	
	33.0		93.75	2.00	0.42		0.47		0.47		0.66	SI			100	
	33.7		94.15	1.60	0.16		0.23		0.23		0.26	SI			100	
	34.4		94.35	1.40	0.11		0.17		0.17		0.17	SI			100	
	35.1		94.35	1.40	0.00		0.00		0.00		0.00	SI			100	
	35.8		94.55	1.20	0.00		0.00		0.00		0.00	SI			100	
	36.5		94.55	1.20	0.00		0.00		0.00		0.00	SI			100	
	37.2		95.45	0.30	0.00		0.00		0.00		0.00	AQ VEG	SI		70	
	37.9		95.55	0.20	0.00		0.00		0.00		0.00	AQ VEG	SI		70	
	38.5		95.65	0.10	0.00		0.00		0.00		0.00	AQ VEG	SI		70	
RWE	39.0		95.75	0.00	0.00		0.00		0.00		0.00	AQ VEG	SI		80	
	40.2	6.22	95.70									VEG			80	
	41.0	5.95	95.97									VEG				
	43.0	5.54	96.38									VEG				
	47.0	5.32	96.60									VEG				
	49.0	5.22	96.70									VEG				
RWP	54.5	5.18	96.74									VEG				

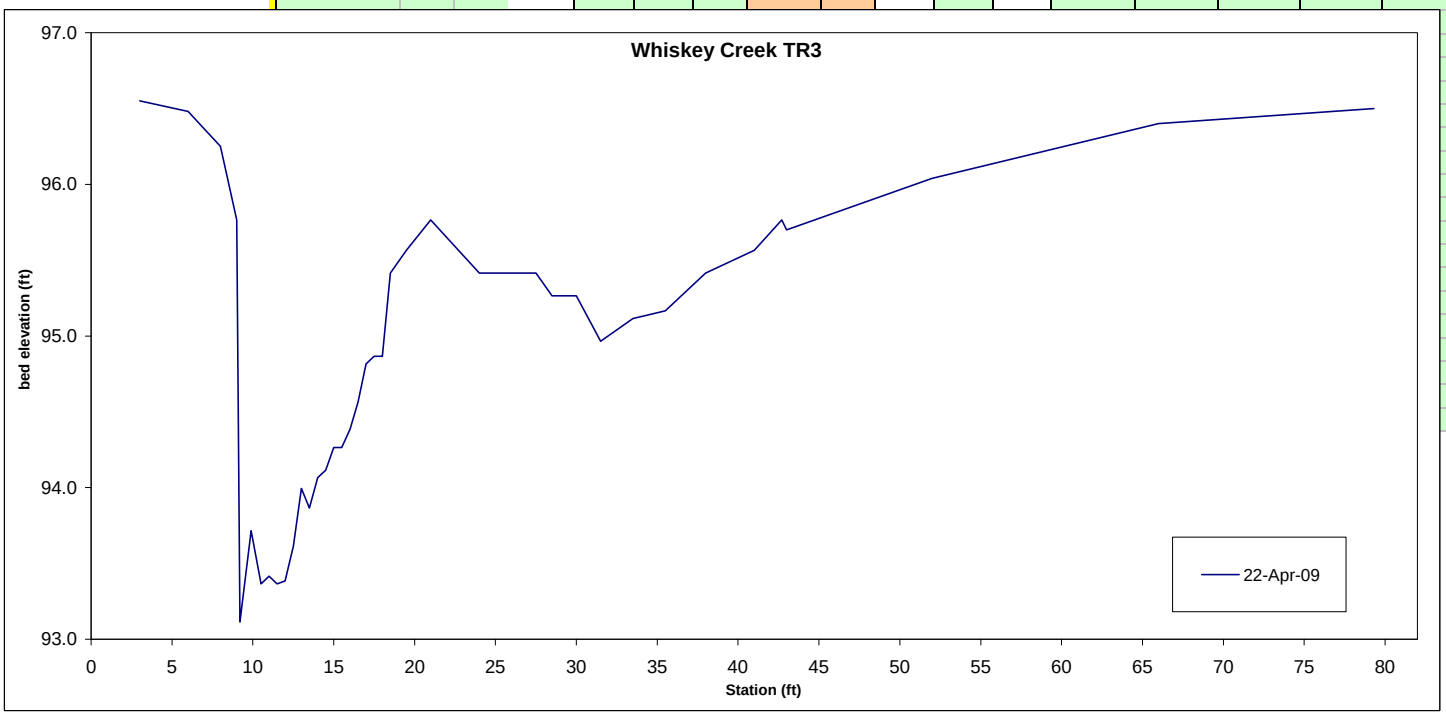


Stream: Whiskey Creek
Site: Whiskey Creek
Transect: 3
Habitat: Glide

Survey Date	HI (ft)	Q (cfs)
4/22/2009	101.92	9.3
1/0/1900	0.00	
1/0/1900	0.00	

22-Apr-09

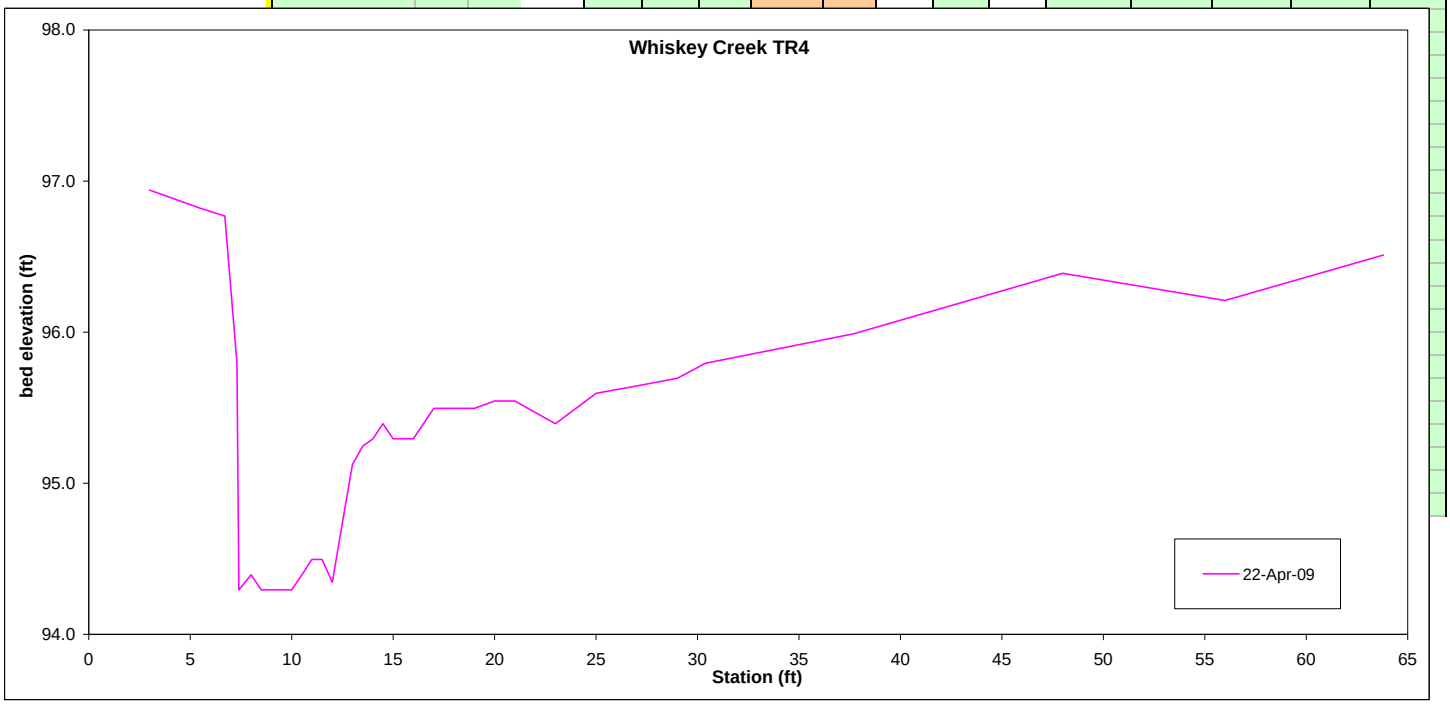
	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	Angle (deg)	q (cfs)	Substrate Composition Dom	Sub-d	Cover	Percent Dom	Sub Code
LWP	3.0	5.37	96.55									VEG				
	6.0	5.44	96.48									VEG				
	8.0	5.67	96.25									VEG				
LWE	9.0		95.77	0.00	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	70	
	9.2		93.12	2.65	0.50	0.50	0.55	0.55	0.55		0.66	SI		OHV	100	
	9.9		93.72	2.05	0.48		0.53		0.53		0.71	SI		OHV	100	
	10.5		93.37	2.40	0.69		0.74		0.74		0.98	SI			100	
	11.0		93.42	2.35	0.79		0.84		0.84		0.99	SI			100	
	11.5		93.37	2.40	0.84		0.89		0.89		1.07	SI	AQ VEG	AQ VEG	90	
	12.0		93.39	2.38	0.59		0.64		0.64		0.76	SI	AQ VEG	AQ VEG	80	
	12.5		93.62	2.15	0.52		0.57		0.57		0.61	SI	AQ VEG	AQ VEG	70	
	13.0		94.00	1.77	0.59		0.64		0.64		0.57	SI	AQ VEG	AQ VEG	70	
	13.5		93.87	1.90	0.54		0.59		0.59		0.56	SI	AQ VEG	AQ VEG	70	
	14.0		94.07	1.70	0.32		0.38		0.38		0.33	SI	AQ VEG	AQ VEG	70	
	14.5		94.12	1.65	0.22		0.29		0.29		0.24	SI	AQ VEG	AQ VEG	70	
	15.0		94.27	1.50	0.34		0.40		0.40		0.30	SI	AQ VEG	AQ VEG	80	
	15.5		94.27	1.50	0.34		0.40		0.40		0.30	SI	AQ VEG	AQ VEG	70	
	16.0		94.39	1.38	0.34		0.40		0.40		0.28	SI	AQ VEG	AQ VEG	80	
	16.5		94.57	1.20	0.33		0.39		0.39		0.24	SI	AQ VEG	AQ VEG	90	
	17.0		94.82	0.95	0.30		0.37		0.37		0.17	SI	AQ VEG	AQ VEG	90	
	17.5		94.87	0.90	0.18		0.25		0.25		0.11	SI	AQ VEG	AQ VEG	90	
	18.0		94.87	0.90	0.05		0.08		0.08		0.04	SI	AQ VEG	AQ VEG	90	
	18.5		95.42	0.35	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	70	
	19.5		95.57	0.20	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	70	
	21.0		95.77	0.00	0.00		0.00		0.00		0.00	SI	AQ VEG	AQ VEG	80	
	24.0		95.42	0.35	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	90	
	26.0		95.42	0.35	0.00		0.00		0.00		0.00	SI	AQ VEG	AQ VEG	70	
	27.5		95.42	0.35	0.05		0.08		0.08		0.03	SI	AQ VEG	AQ VEG	70	
	28.5		95.27	0.50	0.05		0.08		0.08		0.05	AQ VEG	SI	AQ VEG	70	
	30.0		95.27	0.50	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	70	
	31.5		94.97	0.80	0.05		0.08		0.08		0.11	SI	AQ VEG	AQ VEG	80	
	33.5		95.12	0.65	0.05		0.08		0.08		0.10	SI	AQ VEG	AQ VEG	80	
	35.5		95.17	0.60	0.05		0.08		0.08		0.11	SI	AQ VEG	AQ VEG	70	
	38.0		95.42	0.35	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	60	
	41.0		95.57	0.20	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	60	
RWE	42.7		95.77	0.00	0.00		0.00		0.00		0.00	SI			100	
	43.0	6.22	95.70									VEG	SI		70	
	52.0	5.88	96.04									VEG				
	66.0	5.52	96.40									VEG				
RWP	79.3	5.42	96.50									VEG				



Stream: Whiskey Creek
Site: Whiskey Creek
Transect: 4
Habitat: Glide

Survey Date	HI (ft)	Q (cfs)
4/22/2009	101.93	7.2
1/0/1900	0.00	
1/0/1900	0.00	

22-Apr-09																
	Sta	FS	Ground	Depth	Vel (ft/s)					Angle	q	Substrate Composition			Percent	Sub
	(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	(deg)	(cfs)	Dom	Sub-d	Cover	Dom	Code
LWP	3.0	4.99	96.94										VEG			
	5.5	5.11	96.82										VEG			
	6.7	5.16	96.77										VEG			
LWE; UCB = 0.3'	7.3		95.80	0.00	0.00		0.00		0.00		0.00	SI	AQ VEG	Q VEG, UC	70	
	7.4		94.30	1.50	0.55		0.60		0.60		0.31	SI	SA		70	
	8.0		94.40	1.40	0.85		0.90		0.90		0.70	SI	SA		70	
	8.5		94.30	1.50	0.90		0.95		0.95		0.71	SI	SA		90	
	9.0		94.30	1.50	0.89		0.94		0.94		0.71	SI	SA		90	
	9.5		94.30	1.50	0.63		0.68		0.68		0.51	SI	SA		80	
	10.0		94.30	1.50	0.89		0.94		0.94		0.71	SI	SA		80	
	10.5		94.40	1.40	1.04		1.09		1.09		0.76	SI	SA		80	
	11.0		94.50	1.30	0.90		0.95		0.95		0.62	SI	SA		80	
	11.5		94.50	1.30	0.82		0.87		0.87		0.57	SI	SA		90	
	12.0		94.35	1.45	0.54		0.59		0.59		0.43	SI	SA		90	
	12.5		94.75	1.05	0.37		0.43		0.43		0.22	SI	AQ VEG	AQ VEG	80	
	13.0		95.13	0.67	0.63		0.68		0.68		0.23	AQ VEG	SI	AQ VEG	70	
	13.5		95.25	0.55	0.65		0.70		0.70		0.19	AQ VEG	SI	AQ VEG	70	
	14.0		95.30	0.50	0.27		0.34		0.34		0.08	SI	AQ VEG	AQ VEG	60	
	14.5		95.40	0.40	0.13		0.19		0.19		0.04	SI	AQ VEG	AQ VEG	80	
	15.0		95.30	0.50	0.10		0.16		0.16		0.06	SI	AQ VEG	AQ VEG	80	
	16.0		95.30	0.50	0.10		0.16		0.16		0.08	SI	AQ VEG	AQ VEG	80	
	17.0		95.50	0.30	0.10		0.16		0.16		0.05	SI	AQ VEG	AQ VEG	80	
	18.0		95.50	0.30	0.10		0.16		0.16		0.05	SI	AQ VEG	AQ VEG	80	
	19.0		95.50	0.30	0.10		0.16		0.16		0.05	SI	AQ VEG	AQ VEG	80	
	20.0		95.55	0.25	0.05		0.08		0.08		0.02	SI	AQ VEG	AQ VEG	80	
	21.0		95.55	0.25	0.05		0.08		0.08		0.03	SI	AQ VEG	AQ VEG	80	
	23.0		95.40	0.40	0.05		0.08		0.08		0.06	AQ VEG	SI	AQ VEG	60	
	25.0		95.60	0.20	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	60	
	27.0		95.65	0.15	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	60	
	29.0		95.70	0.10	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	60	
RWE	30.4		95.80	0.00	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	60	
	37.7	5.94	95.99										VEG			
	48.0	5.54	96.39										VEG			
	56.0	5.72	96.21										VEG			
RWP	63.8	5.42	96.51										VEG			



Stream: Whiskey Creek
Site: Whiskey Creek
Transect: 5
Habitat: Glide

Survey Date	HI (ft)	Q (cfs)
4/22/2009	101.81	7.6
1/0/1900	0.00	
1/0/1900	0.00	

22-Apr-09

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	Vel (ft/s) $V_{0.8}$	Vel (ft/s) $NV_{0.2/0.6}$	Vel (ft/s) $NV_{0.8}$	Vel (ft/s) Ave	Angle (deg)	q (cfs)	Substrate Composition Dom	Substrate Composition Sub-d	Substrate Composition Cover	Percent Dom	Sub Code
LWP	3.0	5.40	96.41									VEG				
	6.0	5.59	96.22									VEG				
	8.5	5.78	96.03									VEG				
	8.8	6.02	95.79									VEG	SI		90	
LWE	11.2		95.84	0.00	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	70	
	12.0		95.69	0.15	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	70	
	13.0		95.39	0.45	0.05		0.08		0.08		0.04	SI	AQ VEG	AQ VEG	60	
	14.0		95.39	0.45	0.05		0.08		0.08		0.04	SI	AQ VEG	AQ VEG	60	
	15.0		95.44	0.40	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	80	
	16.0		95.04	0.80	0.05		0.08		0.08		0.06	AQ VEG	SI	AQ VEG	80	
	17.0		95.54	0.30	0.05		0.08		0.08		0.02	AQ VEG	SI	AQ VEG	70	
	17.5		94.46	1.38	0.45		0.50		0.50		0.35	SI	SG		60	
	18.0		94.54	1.30	0.49		0.54		0.54		0.35	SG	SA		60	
	18.5		94.39	1.45	1.05		1.10		1.10		0.79	SG	SA		60	
	19.0		94.49	1.35	1.03		1.08		1.08		0.73	SG	SA		70	
	19.5		94.59	1.25	1.20		1.24		1.24		0.77	SG	SA		70	
	20.0		94.59	1.25	0.87		0.92		0.92		0.58	SG	SA		70	
	20.5		94.64	1.20	0.62		0.67		0.67		0.40	SG	SA		80	
	21.0		94.69	1.15	0.55		0.60		0.60		0.34	SG	SA		80	
	21.5		94.59	1.25	0.84		0.89		0.89		0.56	SG	SA		80	
	22.0		94.64	1.20	1.09		1.13		1.13		0.68	SG	SA		60	
	22.5		94.84	1.00	1.23		1.27		1.27		0.63	SG	SA		60	
	23.0		94.79	1.05	1.30		1.34		1.34		0.70	AQ VEG	SA	AQ VEG	70	
	23.5		94.74	1.10	0.88		0.93		0.93		0.36	AQ VEG	SA	AQ VEG	80	
	23.7		94.69	1.15	0.79		0.84		0.84		0.24	AQ VEG	SA	AQ VEG	80	
RWE	24.0		95.64	0.20	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	90	
	24.2	6.02	95.79									VEG	SI		80	
	28.0	6.00	95.81									VEG	SI		80	
	33.0	5.99	95.82									VEG				
	34.7	5.76	96.05									VEG				
	39.0	5.41	96.40									VEG				
	43.0	5.22	96.59									VEG				
RWP	47.2	5.30	96.51									VEG				

Stream: Whiskey Creek
Site: Whiskey Creek
Transect: 6
Habitat: Glide

Survey Date	HI (ft)	Q (cfs)
4/22/2009	101.81	7.5
1/0/1900	0.00	
1/0/1900	0.00	

22-Apr-09

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	Vel (ft/s) $V_{0.8}$	Vel (ft/s) $NV_{0.2/0.6}$	Vel (ft/s) $NV_{0.8}$	Vel (ft/s) Ave	Angle (deg)	q (cfs)	Substrate Composition Dom	Substrate Composition Sub-d	Substrate Composition Cover	Percent Dom	Sub Code
LWP	3.0	5.18	96.63									VEG				
	6.0	5.38	96.43									VEG				
	10.0	5.51	96.30									VEG				
LWE	11.4		96.09	0.00	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	70	
	12.5		95.64	0.45	0.10		0.16		0.16		0.07	SI	AQ VEG	AQ VEG	80	
	13.5		95.19	0.90	0.15		0.22		0.22		0.13	SI	AQ VEG	AQ VEG	80	
Edge of grass clump	13.8		96.09	0.00	0.00		0.00		0.00		0.00					
	14.3		96.49	-0.40	0.00		0.00		0.00		0.00	AQ VEG		AQ VEG	100	
Edge of grass clump	14.9		96.09	0.00	0.00		0.00		0.00		0.00					
	15.5		95.89	0.20	0.00		0.00		0.00		0.00	AQ VEG	SI	AQ VEG	80	
	16.0		95.39	0.70	0.10		0.16		0.16		0.06	AQ VEG	SI	AQ VEG	80	
	16.5		95.29	0.80	0.29		0.36		0.36		0.14	AQ VEG	SI	AQ VEG	70	
	17.0		94.94	1.15	0.27		0.34		0.34		0.19	SI	SMG		70	
	17.5		94.99	1.10	1.56		1.60		1.60		0.88	SMG	SA		80	
	18.0		95.09	1.00	1.67		1.70		1.70		0.85	SMG	SA		80	
	18.5		95.29	0.80	1.37		1.41		1.41		0.56	AQ VEG	SMG	AQ VEG	60	
	19.0		95.29	0.80	1.33		1.37		1.37		0.55	AQ VEG	SMG	AQ VEG	60	
	19.5		95.04	1.05	1.00		1.05		1.05		0.55	SMG	SA		70	
	20.0		95.04	1.05	0.82		0.87		0.87		0.46	SMG	SA		70	
	20.5		95.39	0.70	1.29		1.33		1.33		0.46	AQ VEG	SMG	AQ VEG	70	
	21.0		95.29	0.80	1.33		1.37		1.37		0.55	SMG	AQ VEG	AQ VEG	60	
	21.5		95.29	0.80	1.58		1.62		1.62		0.65	SMG	AQ VEG	AQ VEG	60	
	22.0		95.24	0.85	1.61		1.64		1.64		0.70	SMG	AQ VEG	AQ VEG	60	
	22.5		95.34	0.75	1.32		1.36		1.36		0.51	SMG	AQ VEG	AQ VEG	60	
	23.0		95.49	0.60	0.33		0.39		0.39		0.12	AQ VEG	SI	AQ VEG	60	
	23.5		95.59	0.50	0.10		0.16		0.16		0.06	AQ VEG	SI	AQ VEG	90	
	24.5		95.69	0.40	0.05		0.08		0.08		0.03	AQ VEG	SI	AQ VEG	90	
	25.5		95.89	0.20	0.05		0.08		0.08		0.02	SI	AQ VEG	AQ VEG	60	
	26.5		95.99	0.10	0.05		0.08		0.08		0.01	SI	AQ VEG	AQ VEG	60	
RWE	27.2		96.09	0.00	0.00		0.00		0.00		0.00	SI	AQ VEG	AQ VEG	70	
	29.0	5.54	96.27									VEG	SI			
	33.0	5.57	96.24									VEG	SI			
	42.0	5.59	96.22									VEG	SI			
RWP	48.0	5.07	96.74									VEG				

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     SF Sprague River SP16 09/27/07
RIFFLE                      LOW                                    TRANSECT 1
IOC       01100000000000000000
QARD   5.0
QARD  10.0
QARD  11.4
QARD  15.0
QARD  20.0
QARD  25.0
QARD  30.0
QARD  35.0
QARD  36.9
QARD  40.0
QARD  45.0
QARD  50.0
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
QARD 124.3
QARD 130.0
QARD 140.0
QARD 150.0
QARD 160.0
XSEC   0.0      0.00 1.0     92.72   0.00753
       0.0  1.096.21  7.095.42 13.094.97 19.094.54 21.293.89 21.593.52
       0.0 22.093.52 24.093.07 26.092.77 28.092.72 30.092.80 31.092.87
       0.0 33.093.19 34.093.12 36.093.32 38.093.32 40.093.12 42.093.02
       0.0 44.093.09 46.093.12 48.093.02 50.093.07 52.093.15 53.793.30
       0.0 56.093.12 58.093.00 60.092.96 62.093.20 62.793.52 63.094.14
       0.0 68.094.93 71.095.34 72.596.50 73.296.61
NS     0.0       1.2       1.2       1.2       1.2       1.2       2.8
NS     0.0       2.8       4.5       4.6       6.4       6.5       5.7
NS     0.0       7.5       5.6       5.6       5.6       5.6       5.6
NS     0.0       5.6       5.6       5.6       6.3       6.3       3.6
NS     0.0       3.6       3.6       4.6       2.4       2.1       2.1
NS     0.0       1.2       1.2       1.2       1.2
CALQ   0.0     93.52      11.4     -0.90
ENDJ
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     SF Sprague River SP16 06/14/07
RIFFLE                      MID                                    TRANSECT 1
IOC       011000000000000000000
QARD   5.0
QARD  10.0
QARD  11.4
QARD  15.0
QARD  20.0
QARD  25.0
QARD  30.0
QARD  35.0
QARD  36.9
QARD  40.0
QARD  45.0
QARD  50.0
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
QARD 124.3
QARD 130.0
QARD 140.0
QARD 150.0
QARD 160.0
XSEC   0.0      0.00 1.0     92.72   0.00753
       0.0  1.096.21  7.095.42 13.094.97 19.094.54 20.194.24 21.193.92
       0.0 22.093.39 24.093.14 26.092.92 28.092.74 30.092.72 31.092.72
       0.0 33.093.22 34.093.12 36.093.37 38.093.27 40.093.12 42.093.12
       0.0 44.093.04 46.093.27 48.093.00 50.093.25 52.092.97 53.793.12
       0.0 56.093.14 58.093.22 60.093.07 62.693.47 62.793.92 63.094.14
       0.0 68.094.93 71.095.34 72.596.50 73.296.61
NS     0.0       1.2       1.2       1.2       1.2       1.2       1.2
NS     0.0       2.8       4.5       4.6       6.4       6.5       5.7
NS     0.0       7.5       5.6       5.6       5.6       5.6       5.6
NS     0.0       5.6       5.6       5.6       6.3       6.3       3.6
NS     0.0       3.6       3.6       4.6       2.4       2.1       2.1
NS     0.0       1.2       1.2       1.2       1.2
CALQ   0.0     93.92      36.9     -2.10
ENDJ
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     SF Sprague River SP16 09/27/07
RIFFLE                       LOW                                        TRANSECT 1
IOC       11011001000010001010000
QARD   5.0
QARD  10.0
QARD  11.4
QARD  15.0
QARD  20.0
QARD  25.0
QARD  30.0
QARD  35.0
QARD  36.9
QARD  40.0
QARD  45.0
QARD  50.0
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
QARD 124.3
QARD 130.0
QARD 140.0
QARD 150.0
QARD 160.0
XSEC   0.0      0.00 1.0     92.79   0.00753
       0.0  1.096.21  7.095.42 13.094.97 19.094.54 21.293.89 21.593.52
       0.0 22.093.52 24.093.07 26.092.77 28.092.72 30.092.80 31.092.87
       0.0 33.093.19 34.093.12 36.093.32 38.093.32 40.093.12 42.093.02
       0.0 44.093.09 46.093.12 48.093.02 50.093.07 52.093.15 53.793.30
       0.0 56.093.12 58.093.00 60.092.96 62.093.20 62.793.52 63.094.14
       0.0 68.094.93 71.095.34 72.596.50 73.296.61
NS     0.0       1.2       1.2       1.2       1.2       1.2       2.8
NS     0.0       2.8       4.5       4.6       6.4       6.5       5.7
NS     0.0       7.5       5.6       5.6       5.6       5.6       5.6
NS     0.0       5.6       5.6       5.6       6.3       6.3       3.6
NS     0.0       3.6       3.6       4.6       2.4       2.1       2.1
NS     0.0       1.2       1.2       1.2       1.2
WSL    0.0     93.36     93.49     93.52     93.61     93.71     93.80
WSL    0.0     93.86     93.91     93.92     93.94     93.97     93.99
WSL    0.0     94.02     94.04     94.06     94.08     94.10     94.12
WSL    0.0     94.13     94.15     94.17     94.19     94.20     94.22
WSL    0.0     94.25     94.26     94.28     94.31     94.33     94.36
CAL1   0.0     93.52      11.4
VEL1   0.0                          0.00 0.00 0.21 0.18 0.27 1.25 1.20
VEL1   0.0 1.35 1.34 0.68 1.03 0.99 1.03-0.07 1.55 1.07 0.85 0.47 0.52
VEL1   0.0 0.80 0.68 0.73 0.36 0.00
CAL2   0.0     93.92      36.9
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     94.24     124.3
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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     SF Sprague River SP16 06/14/07
RIFFLE                      MID                                    TRANSECT 1
IOC       11011001000010001010000
QARD   5.0
QARD  10.0
QARD  11.4
QARD  15.0
QARD  20.0
QARD  25.0
QARD  30.0
QARD  35.0
QARD  36.9
QARD  40.0
QARD  45.0
QARD  50.0
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
QARD 124.3
QARD 130.0
QARD 140.0
QARD 150.0
QARD 160.0
XSEC   0.0      0.00 1.0     92.79   0.00753
       0.0  1.096.21  7.095.42 13.094.97 19.094.54 20.194.24 21.193.92
       0.0 22.093.39 24.093.14 26.092.92 28.092.74 30.092.72 31.092.72
       0.0 33.093.22 34.093.12 36.093.37 38.093.27 40.093.12 42.093.12
       0.0 44.093.04 46.093.27 48.093.00 50.093.25 52.092.97 53.793.12
       0.0 56.093.14 58.093.22 60.093.07 62.693.47 62.793.92 63.094.14
       0.0 68.094.93 71.095.34 72.596.50 73.296.61
NS     0.0       1.2       1.2       1.2       1.2       1.2       1.2
NS     0.0       2.8       4.5       4.6       6.4       6.5       5.7
NS     0.0       7.5       5.6       5.6       5.6       5.6       5.6
NS     0.0       5.6       5.6       5.6       6.3       6.3       3.6
NS     0.0       3.6       3.6       4.6       2.4       2.1       2.1
NS     0.0       1.2       1.2       1.2       1.2
WSL    0.0     93.36     93.49     93.52     93.61     93.71     93.80
WSL    0.0     93.86     93.91     93.92     93.94     93.97     93.99
WSL    0.0     94.02     94.04     94.06     94.08     94.10     94.12
WSL    0.0     94.13     94.15     94.17     94.19     94.20     94.22
WSL    0.0     94.25     94.26     94.28     94.31     94.33     94.36
CAL1   0.0     93.92      36.9
VEL1   0.0                    0.00 0.00 0.28 0.56 0.41 1.29 1.63 1.61
VEL1   0.0 1.89 1.71 1.07 1.62 1.91 2.10 0.36 2.58 1.52 0.96 0.32 0.57
VEL1   0.0 0.94 1.01 0.84 0.00 0.00
CAL2   0.0     94.24     124.3
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     93.52      11.4
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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     SF Sprague River SP16 04/27/07
RIFFLE                      HGH                                    TRANSECT 1
IOC       1101100100001000101000
QARD   5.0
QARD  10.0
QARD  11.4
QARD  15.0
QARD  20.0
QARD  25.0
QARD  30.0
QARD  35.0
QARD  36.9
QARD  40.0
QARD  45.0
QARD  50.0
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
QARD 124.3
QARD 130.0
QARD 140.0
QARD 150.0
QARD 160.0
XSEC   0.0      0.00 1.0     92.79   0.00753
       0.0  1.096.21  7.095.42 13.094.97 19.094.54 20.194.24 22.093.29
       0.0 24.093.24 26.092.84 28.092.84 30.092.79 31.092.84 33.093.04
       0.0 34.093.04 36.093.34 38.093.34 40.093.14 42.093.04 44.093.04
       0.0 46.093.24 48.092.94 50.093.34 52.093.04 53.793.14 56.093.09
       0.0 58.092.94 60.092.94 62.093.14 62.693.29 63.294.24 68.094.93
       0.0 71.095.34 72.596.50 73.296.61
NS     0.0       1.2       1.2       1.2       1.2       1.2       2.8
NS     0.0       4.5       4.6       6.4       6.5       5.7       7.5
NS     0.0       5.6       5.6       5.6       5.6       5.6       5.6
NS     0.0       5.6       5.6       6.3       6.3       3.6       3.6
NS     0.0       3.6       4.6       2.4       2.1       2.1       1.2
NS     0.0       1.2       1.2       1.2
WSL    0.0     93.36     93.49     93.52     93.61     93.71     93.80
WSL    0.0     93.86     93.91     93.92     93.94     93.97     93.99
WSL    0.0     94.02     94.04     94.06     94.08     94.10     94.12
WSL    0.0     94.13     94.15     94.17     94.19     94.20     94.22
WSL    0.0     94.25     94.26     94.28     94.31     94.33     94.36
CAL1   0.0     94.24     124.3
VEL1   0.0                    0.00 0.94 1.64 1.17 2.49 3.08 3.15 3.43
VEL1   0.0 3.07 2.87 2.62 2.66 3.21 0.73 4.25 3.44 3.84 0.34 3.70 3.59
VEL1   0.0 3.07 2.38 1.43 0.64 0.00
CAL2   0.0     93.92      36.9
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     93.52      11.4
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
```

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     SF Sprague River SP16 06/14/07
RIFFLE                      LOW                                    TRANSECT 2
IOC       11011000000001000101000
QARD   5.0
QARD  10.0
QARD  11.4
QARD  15.0
QARD  20.0
QARD  25.0
QARD  30.0
QARD  35.0
QARD  36.9
QARD  40.0
QARD  45.0
QARD  50.0
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
QARD 124.3
QARD 130.0
QARD 140.0
QARD 150.0
QARD 160.0
XSEC   0.0      0.00 1.0     92.80   0.00753
       0.0 -7.097.33  1.096.75  3.096.17  5.095.75  5.394.15  8.293.70
       0.0  9.093.55 10.593.20 12.092.95 13.592.80 15.092.43 16.592.80
       0.0 18.092.90 19.592.50 21.092.45 22.592.60 24.093.30 25.593.30
       0.0 27.093.70 28.593.50 30.093.35 31.593.35 33.093.20 34.593.30
       0.0 36.093.60 37.593.50 38.893.70 39.094.40 41.094.93 44.095.50
NS     0.0       1.2       1.2       1.2       1.2       1.2       2.4
NS     0.0       2.3       2.6       6.2       6.2       7.3       7.4
NS     0.0       6.7       6.5       6.5       6.5       7.6       7.6
NS     0.0       7.6       7.5       7.5       5.6       5.4       5.2
NS     0.0       2.5       2.4       2.1       1.2       1.2       1.2
CAL1   0.0     93.70      11.4
VEL1   0.0                          0.00 0.00 0.43 0.30 0.57 0.23 1.39
VEL1   0.0 0.80 0.66 0.45 0.52 0.42 1.22 0.00 0.95 1.00 1.21 0.93 0.22
VEL1   0.0 0.00 0.00 0.00
CAL2   0.0     94.62     124.3
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     94.10      36.9
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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     SF Sprague River SP16 06/14/07
RIFFLE                       MID                                    TRANSECT 2
IOC       11011000000001000101000
QARD   5.0
QARD  10.0
QARD  11.4
QARD  15.0
QARD  20.0
QARD  25.0
QARD  30.0
QARD  35.0
QARD  36.9
QARD  40.0
QARD  45.0
QARD  50.0
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
QARD 124.3
QARD 130.0
QARD 140.0
QARD 150.0
QARD 160.0
XSEC   0.0      0.00 1.0     92.80   0.00753
       0.0 -7.097.33  1.096.75  3.096.17  5.095.75  5.394.15  6.094.10
       0.0  7.593.90  9.093.50 10.593.20 12.093.00 13.592.78 15.092.40
       0.0 16.592.85 18.092.82 19.592.40 21.092.42 22.592.60 24.093.32
       0.0 25.593.28 27.093.70 28.593.50 30.093.40 31.593.40 33.093.20
       0.0 34.593.30 36.093.60 37.593.50 38.893.85 38.994.10 41.094.93
       0.0 44.095.50
NS     0.0       1.2       1.2       1.2       1.2       1.2       1.2
NS     0.0       2.4       2.3  .20  2.6  .25  6.2 .25   6.2       7.3
NS     0.0       7.4       6.7  .11  6.5  .11  6.5       6.5 .09   7.6
NS     0.0       7.6       7.6       7.5       7.5       5.6       5.4
NS     0.0 .20   5.2 .25   2.5       2.4       2.1       1.2       1.2
NS     0.0       1.2
CAL1   0.0     94.10      36.9
VEL1   0.0                          0.00 0.00 0.00 0.33 0.34 0.35 0.76
VEL1   0.0 1.47 2.30 1.36 1.35 2.47 0.93 2.06 2.19 1.84 1.80 1.85 2.07
VEL1   0.0 0.45 0.10 0.73 0.00 0.00
CAL2   0.0     94.62     124.3
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     93.70      11.4
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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     SF Sprague River SP16 09/27/07
RIFFLE                       LOW                                        TRANSECT 3
IOC       1101100000001000101000
QARD   5.0
QARD  10.0
QARD  11.4
QARD  15.0
QARD  20.0
QARD  25.0
QARD  30.0
QARD  35.0
QARD  36.9
QARD  40.0
QARD  45.0
QARD  50.0
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
QARD 124.3
QARD 130.0
QARD 140.0
QARD 150.0
QARD 160.0
XSEC   0.0      0.00 1.0     94.45   0.00753
       0.0 -6.098.76  1.098.31  6.097.56  6.796.60 10.095.88 15.095.06
       0.0 20.295.01 20.894.79 21.594.39 22.094.14 24.093.99 26.094.49
       0.0 28.094.74 30.094.59 32.094.54 34.094.49 36.094.34 38.094.49
       0.0 40.094.54 42.094.74 44.094.54 46.094.59 48.094.39 50.094.69
       0.0 52.094.49 54.094.49 56.094.44 58.094.79 59.094.79 59.895.24
       0.0 60.395.58 62.095.99 66.496.45 70.497.52
NS     0.0       1.2       1.2       1.2       1.2       1.2       1.2
NS     0.0       1.2       1.2       2.4       2.4       4.2       4.2
NS     0.0       4.5       5.4       5.6       5.6       5.6       5.6
NS     0.0       5.6       5.6       6.5       6.5       5.6       5.6
NS     0.0       5.6       5.6       6.4       6.2       1.2       1.2
NS     0.0       1.2       1.2       1.2       1.2
CAL1   0.0     94.79      11.4
VEL1   0.0                                      0.00 0.00 0.00 0.00 0.95
VEL1   0.0 0.25 0.48 1.64 1.53 2.55 1.78 1.79 1.36 1.87 0.94 1.52 1.36
VEL1   0.0 0.58 1.06 1.09 0.00 0.00
CAL2   0.0     95.55     124.3
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     95.05      36.9
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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     SF Sprague River SP16 06/14/07
RIFFLE                       MID                                        TRANSECT 3
IOC       1101100000001000101000
QARD   5.0
QARD  10.0
QARD  11.4
QARD  15.0
QARD  20.0
QARD  25.0
QARD  30.0
QARD  35.0
QARD  36.9
QARD  40.0
QARD  45.0
QARD  50.0
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
QARD 124.3
QARD 130.0
QARD 140.0
QARD 150.0
QARD 160.0
XSEC   0.0      0.00 1.0     94.45   0.00753
       0.0 -6.098.76  1.098.31  6.097.56  6.796.60 10.095.88 15.095.06
       0.0 20.295.05 21.594.10 22.093.95 24.093.80 26.094.30 28.094.60
       0.0 30.094.45 32.094.43 34.094.45 36.094.25 38.094.37 40.094.53
       0.0 42.094.70 44.094.70 46.094.65 48.094.25 50.094.50 52.094.35
       0.0 54.094.45 56.094.45 58.094.65 59.695.05 59.895.24 60.395.58
       0.0 62.095.99 66.496.45 70.497.52
NS     0.0       1.2       1.2       1.2       1.2       1.2       1.2
NS     0.0 .1    1.2 .15   2.4 .15   2.4 .20   4.2       4.2       4.5
NS     0.0       5.4       5.6       5.6       5.6 .048  5.6       5.6
NS     0.0       5.6       6.5       6.5       5.6       5.6       5.6
NS     0.0       5.6       6.4 .07   6.2  .05  1.2       1.2       1.2
NS     0.0       1.2       1.2       1.2
CAL1   0.0     95.05      36.9
VEL1   0.0                                0.00 0.46 0.57 0.26 0.93 1.08
VEL1   0.0 1.91 1.93 1.96 2.70 1.73 1.86 2.04 1.93 1.23 1.47 1.66 1.55
VEL1   0.0 1.50 1.26 1.08 0.00
CAL2   0.0     95.55     124.3
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     94.79      11.4
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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